DEPARTMENT OF THE ARMY
U. S. Army Corps of Engineers
Washington, D. C. 20314

ETL 1110-2-301

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Engineer Technical
Letter No. 1110-2-301

26 August 1983

Engineering and Design
INTERIM PROCEDURE FOR SPECIFYING EARTHQUAKE MOTIONS

1. Purpose. This letter provides interim guidance on procedures to be used in specifying earthquake motions for design analyses of new civil works structures and in the assessment of existing civil works structures.

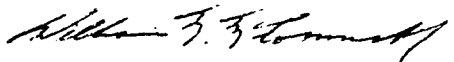
2. Applicability. This letter is applicable to all field operating activities having civil works responsibilities.

3. References. See Inclosure 3 for a list of references.

4. Background. ER 1110-2-1806 is currently being revised. As part of that revision, the technical guidance portions of the ER are being deleted; the ER will contain direction only. The necessary technical guidance on earthquake design and analysis will be provided in Engineer Manuals. During the period of preparation of these manuals, interim guidance will be provided by a series of Engineer Technical Letters. This ETL on specifying earthquake motions is the first of the series. Other topics to be discussed in subsequent ETLS include field investigations, laboratory testing, and analytic techniques for embankments, concrete dams and appurtenant structures.

5. Discussion. The interim guidance presented in this letter is contained in two Inclosures. Inclosure 1 is a list of definitions of terms used in the practice of engineering seismology. Some have slightly different meanings from agency to agency. The list is not complete but should serve to assure that the use of important terms is consistent within the Corps. Inclosure 2 contains a procedural checklist with guidance on the method and philosophy of approaching the problem. Actual data to be used in specifying earthquake motions are not included but are contained in the cited references. Included in Inclosure 2 is a general discussion concerning the circumstances requiring the specification of earthquake motions, the use of "deterministic" and "probabilistic" methods, the sequence of procedures necessary to select the design earthquakes, project site ground motions, and a discussion of the use of response spectra and accelerograms.

FOR THE COMMANDER:



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Construction